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again revising his book, protests are already being heard even from across the Atlantic. Success entails responsibilities.

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*Occasional Papers of the Museum of Zoology, University of Michigan.* Nos. 1-35, 1913-17 (each separately paged). Ann Arbor, published by the University.

Dr. A. G. Ruthven, the Director of the Museum of Zoology of the University of Michigan, is heartily to be congratulated upon the appearance of the first volumes of these "Occasional Papers." Nowadays when every one is continually receiving requests to subscribe to some new journal or other, this series comes as a refreshing delight; it is not published for sale! We learn that the papers are issued separately to libraries and specialists, and, when sufficient matter has accumulated, a title page and an index—an excellent index by the way—is prepared and the volume is sent forth.

The contents will appeal especially to the modernized systematist, who tries, at any rate, to take interest in ecology, zoography and the careful noting of life histories. We find notices not only of such astonishing novelties as *Lathrogecko*, *Pseudogonatodes* and *Calliscincopus* among reptiles, and of *Cryptobrachus* and *Geobatrachus* among amphibia, but of more general interest are the very interesting observations upon the egg-laying and hatching of several South American species of amphibia, of varied genera, in all of which some significant and peculiar adaptation or modification is recorded. The series is not, however, for the herpetologist alone. Reighard and Cummins have a model description of a new *Ichthyomyzon* with notes and figures of its appearance and customs. Other writers discuss crustacea, insects of various groups, trematodes, as well as birds and mammals.

That these articles were not chosen for the collection but simply represent the natural

output for this comparatively new and hitherto little-known museum indeed augurs happily for the future of the series and for that of the museum as well. Workers in the Museum of Comparative Zoology at Harvard are perhaps naturally more *sympatico* than others and when they review their own museum's past it is not difficult for them to foresee the swift growth of another great university museum of similarly unrestricted interest and endeavor at Ann Arbor.

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### SPECIAL ARTICLES

#### CONCERNING THE INFLUENCE OF THE AGE OF AN ORGANISM IN MAINTAINING ITS ACID-BASE EQUILIBRIUM

THE importance of the maintenance on the part of the blood and tissue juices of a hydrogen ion concentration within certain narrow limits of variation has been established through the work of J. S. Haldane and L. J. Henderson. Recent investigations have not only served to emphasize the importance that the organism should maintain a certain acid-base equilibrium for its physiological life, but have also shown that when the mechanism which regulates this equilibrium is interfered with so that the hydrogen ion concentration of the blood is increased and maintained for an adequate time, the organism no longer functionates normally, but becomes pathological in certain of its reactions.

It is not the object of this note to enter into a discussion of the factors concerned in maintaining a normal acid-base equilibrium, nor to discuss those pathological conditions in which a variation from the normal is frequently observed. The object is to call attention to the influence of the age of the organism in controlling the mechanism by which the acid-base equilibrium is kept within the bounds of normality.

Some years ago, while conducting a series of experiments in which uranium nitrate was employed as the toxic agent to induce an acute nephritis, the observation was made that this substance was more toxic for old animals than for young animals.<sup>1</sup> This variation in

<sup>1</sup> MacNider, W. deB., "On the Difference in the